THE DEPARTMENT OF OBSTETRICS AND GYNECOLOGY PRESENTS:

OBGYN Residency Research Day 2019

KEYNOTE SPEAKER

Christopher M. Zahn, MD

Vice President of Practice Activities at the American College of Obstetricians and Gynecologists (ACOG). Professor of Obstetrics and Gynecology and Pathology at USUHS. Former Chair of Obstetrics and Gynecology at the Uniformed Services University of Health Sciences (USUHS).

Physician's Conference Center

Monday, June 3, 2019

INOVA

CME Continuing Medical Education

Program Schedule

Breakfast and Registration

7:00 AM—8:00 AM

Welcome—S. Abbas Shobeiri MD, Vice Chair

8:00 AM—8:05 AM

Keynote—Christopher M. Zahn, MD

Gynecologic Pathology: What Does It All Mean???

8:05 AM—8:50 AM

Resident Research Presentations

9:00 AM—10:00 AM

10:00 AM—10:30 AM Break

10:30 AM—12:00 PM

Awards, Closing Remarks— Larry Maxwell MD, Chairman

12:00 PM—12:15 PM

Lunch

12:30 PM—1:00 PM

Research Presentations

Each presentation is 8 minutes with 2 minutes for questions.

1	**Carmen Proctor** 9:00 –9:10am	Gynecology Inpatient Emergency Simulations to Improve Patient Outcomes
2	Araba Jackson 9:19—9:20am	Simulation-Based Education for Contraception Counseling: A Crossover Study
3	Eva Welch 9:20 - 9:30am	Robot-Assisted Multiport Hysterotomy with Resection of Cesarean Scar Ectopic Pregnancy Involving the Cervix and Metroplasty
4	Callum Potts 9:30-9:40am	Nonresective treatments for uterine fibroids: a systematic review of uterine and fibroid volume reductions
5	Joan Azoury 9:40-9:50am	What are the effects of vitamin C on sperm functional properties during direct swim-up procedure
6	Marina Guirguis 9:50-10:00am	Measures of Resilience and Burnout Among Residents in Obstetrics and Gynecology
7	Sali Jordan 10:00-10:10am	Tracking Obstetrical and Gynecological Experiences Using Mobile Devices
	10:10-10:20am	Break/View the posters for the interns
8	Marcella Rodriguez 10:20-10:30am	Effect of delayed cord clamping on blood sugars levels on 34 -36 week fetuses who received late preterm antenatal steroids
9	Karl Seif 10:30-10:40am	Transvaginal ultrasound evaluation of the cervical stroma and length at the time of the fetal anatomy survey in women undergoing history-indicated cerclage: does it matter?
10	Jennifer Vaz 10:40-10:50am	Impact of Adjuvant Treatment and Prognostic Factors in Stage I Uterine Leiomyosarcoma Patients Treated in Commission on Cancer®-Accredited Facilities

Research Presentations

11	Sara Hamade 10:50-11:00am	The impact of Ursodiol treatment on fetal PR interval in patients with cholestasis of pregnancy"
12	Alison Hawkins 11:00-11:10am	Is early amniotomy in nulliparous woman undergoing labor induction associated with increased risk of chorioamnionitis? A retrospective chart review
13	Aisat Okanlawon 11:10-11:20am	Can the number of fetal fraction on cell free DNA and abnormality of PaPP-A serve as a screening tool for development of pre-eclampsia?
14	Graham Nelsen 11:20-11:30am	Evaluation of fetal biometry ratios (BPD/FL and FL/foot) as a combined screening method for lethal skeletal dysplasias
15	Charbel Awad 11:30-11:40am	TWELVE YEARS' EXPERIENCE WITH FASCIA LATA AUTOGRAFT TO REPLACE COMPLICATED ANTERIOR VAGINAL MESH
16	Leah Allbright 11:40-11:50am	Headache in peripartum women: not all headache is preeclampsia
17	Ashley Bonamer 11:50-12:00am	Postpartum Counseling: Empowering Women and Clinicians to Take Charge of the Fourth Trimester.
18	Cassandra Presti 12:00-12:10am	Factors to Explain Racial Disparity in Survival for Women with Uterine Cancer: Further Investigations by Histologic Subtype
19	Masooma Raza 12:10-12:20am	Evaluation and management of anal incontinence in a perineal clinic utilizing pelvic floor ultrasound
20	Conway Xu 12:20-12:30pm	Treatment and Survival in Elderly Women with Gynecologic Cancer Not Inferior with Medicare versus Private Insurance: A National Cancer Database Investigation

1. Carmen Proctor

Gynecology Inpatient Emergency Simulations to Improve Patient Outcomes

Authors

Carmen Proctor MD, Claire Lewis ACNP, MSN, Virginia Archer WHNP, MSN,
Emily Marko MD

Objective/ Introduction

To determine the effectiveness of mock rapid response simulation scenarios on gynecologic oncology inpatient emergencies to improve team confidence, knowledge, and responsiveness to improved patient outcomes.

Design/ Methods

A prospective pre-post educational study was performed with 3 simulated scenarios of inpatient gynecologic emergencies: hypotension due to post-operative hemorrhage, pulmonary embolism, and neutropenic sepsis. Participants included multi-disciplinary staff working on medical-surgical gynecologic oncology inpatient wards in a large Northern Virginia hospital system. A moulaged mannequin with high-fidelity vital signs was used for mock rapid response in situ simulations. Participant data was statistically compared for pre-post curriculum differences including knowledge test, confidence survey and team performance assessments based on validated checklists. Clinical impacts were measured through hospital patient safety data before and after the curriculum was initiated.

Results

Seventeen multi-disciplinary participants participated in 4 mock rapid response events over 3 months. In each scenario, statistically significant improvement was found in knowledge, confidence and team performance (Table 1). The most significant team improvements were seen with the sepsis scenario. During the study period hospital-wide patient safety data demonstrated a reduction in both intensive care unit (ICU) stays and mortality rates for sepsis. Course evaluations were overwhelmingly positive and team members felt the mock codes were very valuable.

Conclusions

Simulation is an effective method to prepare multi-disciplinary teams to respond to gynecologic oncology inpatient emergencies. This is an ongoing study and initial results indicate that mock codes may result in earlier recognition and management of inpatient gynecologic oncology emergencies resulting in reduced morbidity and mortality.

2. Araba Jackson

Simulation-Based Education for Contraception Counseling: A Crossover Study

Authors

Jackson, Araba MD; Marko, Emily MD, FACOG, CHSE, Perez-Visona, Sira BA

Objective/ Introduction

Healthcare providers are responsible for identifying women at risk of unintended pregnancy and providing counseling regarding contraceptive options through shared decision-making. The purpose of this study was to determine if a simulation-based curriculum will improve confidence and competence in contraception counseling compared with traditional instruction.

Design/Methods

A randomized prospective crossover study was performed using two groups of third year medical students in the same clerkship rotations. All students received the same curriculum but had competency assessments at different times (group 1=pre-simulation, group 2=post-simulation). All underwent objective structured clinical exams (OSCEs) at the end of the clerkship. Instructional strategies included standardized patients and faculty feedback. Outcomes were measured using pre-post confidence surveys, competency assessment scores, and OSCE results. Institutional review board exemption was obtained.

Results

Seventy-two students participated in the study over 1 year. Significant improvement was noted in pre-post confidence scores of both groups (group 1 pre=3.27, post=1.79, $p=0.0005$, group 2 pre=3.20, post=1.63, $p<0.0001$). The post-simulation crossover group demonstrated competency assessments that were significantly higher than the pre-simulation group (group 1 at 48.61% vs. group 2 at 79.40%, $p<0.0001$). Both groups completed the clerkship with similar OSCE scores (group 1 at 84.38% vs. group 2 at 83.12%) with group 1 demonstrating significant improvement from the pre-simulation competency assessment (48.61% vs. 84.38%, $p<0.0001$).

Conclusions

Simulation significantly improved contraception counseling competencies in medical students. Providing learners with the ability to practice these shared decision-making skills through a simulated patient encounter may better prepare them to counsel real patients regarding contraception and hopefully prevent unintended pregnancies.

3. Eva Welch

Robot-Assisted Multiport Hysterotomy with Resection of Cesarean Scar Ectopic Pregnancy Involving the Cervix and Metroplasty

Authors
Eva Kwong Welch MD, Payam Katebi Kashi MD PhD, Araba Jackson MD, Gaylord Scott Rose MD

Objective/ Introduction
To demonstrate a minimally invasive robot-assisted technique to resect a cesarean scar ectopic pregnancy also involving the cervix and subsequent metroplasty.

Description: Cesarean scar ectopic pregnancy occurs in approximately 1 in 2000 pregnancies and has the potential to cause significant maternal morbidity and mortality due to risk of hemorrhage. It is unclear the most effective treatment of cesarean scar pregnancy due to limited available data. The case presented is a 30-year old female gravida two para one at 15 weeks gestation with cesarean scar ectopic pregnancy who underwent a robot-assisted resection after failed methotrexate treatment. After placement of the robotic port sites, the bladder flap was developed distal to the cervix. A large window was visualized in the lower uterine segment and cervical region. The cesarean scar ectopic was visualized involving also the cervical region just above the internal os; this was resected until normal myometrium was encountered. The myometrium was subsequently re-approximated in layers of 2-0-Monocryl suture. Hysteroscopy was then performed, where the sutures were visualized and the endocervical canal verified to be patent. Post-operative imaging revealed resolution of previously visualized ectopic pregnancy as well as a reinforced anterior lower uterine segment myometrium.

Conclusion: Robot-assisted resection of cesarean scar ectopic pregnancy and metroplasty is a safe and feasible method for treatment of a cesarean scar ectopic pregnancy also involving the cervix.

Key words: cesarean scar ectopic pregnancy, robotic laparoscopy

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4. Callum Potts

Nonresective treatments for uterine fibroids: a systematic review of uterine and fibroid volume reductions

Patients are increasingly seeking uterus-preserving, minimally invasive treatments for symptomatic uterine fibroids. This has led to a greater use of nonresective treatments such as uterine artery embolization (UAE), focused ultrasound (FUS) and more recently, radiofrequency ablation (RFA) of fibroids. This systematic review, following PRISMA guidelines, examines the change in uterine and fibroid volumes associated with UAE, FUS, and RFA. Pubmed and MedlinePlus databases were searched from 1956 to 2016. The keywords used were 'radiofrequency ablation,' 'magnetic resonance guided focused ultrasound,' 'ultrasound guided focused ultrasound', 'uterine artery embolization,' 'uterine fibroid embolization,' and 'leiomyoma' or 'fibroid'. Publications with at least 20 patients were included. Data were collected and analyzed using Microsoft Excel® (Microsoft Corporation, Redmond, WA) software. Eighty-one relevant papers were identified: 52 related to UAE, 11 to RFA, 17 to FUS, 1 compared UAE and FUS. We report the published uterine volume and fibroid volume changes seen in these studies at 1 to 36 months. The pooled fibroid volume reductions at six months seen with RFA were 70%, UAE 54% and FUS 32%. All three types of nonresective treatment result in fibroid volume reduction. However, fibroid volume reduction is most marked with RFA, with UAE resulting in the next most volume reduction. Additional larger cohort studies, including those that are randomized and/or comparative, would enable definitive conclusions. This is the first systematic review comparing uterine and fibroid volume reduction after RFA, UAE and MRgFUS."

5. Joan Azoury

What are the effects of vitamin C on sperm functional properties during direct swim-up procedure?

Abstract: Direct swim-up procedure is widely used to separate the motile competent spermatozoa from the antioxidant-rich semen. Subsequently, spermatozoa become more vulnerable to reactive oxygen species (ROS) due to their cytological characteristics. The effect of vitamin C, a highly concentrated antioxidant in the semen, on direct swim-up-enriched sperm population is not fully investigated. Therefore, the aim of the present study was to assess the effect of vitamin C on sperm functional properties during direct swim-up procedure. Semen samples were collected from 22 participants. Each semen sample was divided into several aliquots. The first portion was overlaid with sperm medium without ascorbic acid (0 µM AA). The second and third fractions were overlaid with sperm medium supplemented with 300 µM and 600 µM AA; respectively. After 1 h of incubation, basic sperm parameters, intracellular ROS levels, acrosome reaction, chromatin integrity, and glucose uptake were assessed. Swim-up without AA significantly increased the percentage of ROS(+) spermatozoa compared with the raw semen (P<0.01). Interestingly, swim-up with 300 µM AA did not increase the percentage of ROS(+) sperm compared with the raw semen. In parallel, the percentage of sperm with altered chromatin integrity was significantly lower in the 300 µM AA group compared with that in the raw semen (P<0.05). These findings suggest that supplementation of vitamin C to sperm medium could be beneficial for direct swim-up-derived spermatozoa.

6. Marina Guirguis

Measures of Resilience and Burnout Among Residents in Obstetrics and Gynecology

Authors

Marina Guirguis, MD, Callum Potts, MBBS, Samantha Buery-Joyner, MD

Objective/Introduction

Burnout, defined by emotional exhaustion, depersonalization, and low personal accomplishment, represents a significant challenge to the medical community. Recognizing this challenge, CREOG has incorporated mindfulness and wellness into its educational curriculum. Objective and current data amongst OB/GYN residents is necessary to guide both targeted and systemic interventions to improve physician wellness.

Design/ Method

An online survey was sent to OB/GYN residents in residency programs across ACOG District IV using validated toolkits assessing factors such as burnout, resilience, compassion, and self-care. The validated toolkits utilized in the survey include the Maslach Burnout Inventory (MBI), the Brief Resilience Scale (BRS), the Epworth Sleepiness Scale (ESS). Correlation between groups was measured using the Spearman's rank correlation co-efficient.

Results

The survey was completed by 33 respondents. Responses to the MBI revealed a 55% burnout rate amongst OB/GYN residents (measured by a score of ≥27 in emotional exhaustion and ≥13 in depersonalization), and 90% of respondents had at least average scores on the Emotional Exhaustion and/or Depersonalization scales (measured as 17-26 and 7-12 respectively). Residents who exhibited burnout on the MBI demonstrated lower resilience as measured by the BRS (p=0.02). Responses to the ESS demonstrated that 60% of OB/GYN residents display excessive levels of daytime sleepiness, of which 30% were considered to exhibit severe excessive daytime sleepiness.

Conclusions

OB/GYN residents across a multitude of residency programs in District IV demonstrate high levels of burnout. Interventions should be introduced to reduce burnout and improve resilience, and longitudinal data tracked to observe their efficacy.

7. Sali Jordan

Tracking Obstetrical and Gynecological Experiences Using Mobile Devices

Authors

Sali Jordan MD, Emily Marko MD, Francine McLeod MD, Sira Perez-Visona BA

Objective/ Introduction

Tracking clinical experiences is important toward progression of entrustable professional activities required by medical schools. The purpose of this study was to determine the effectiveness of using an innovative real-time mobile device tracker for medical student clinical experiences compared with the traditional tracking using a passport log.

Design/Methods

A prospective single cohort observational study was performed using third year medical students in obstetrics and gynecology rotations. Participants downloaded the obstetrics and gynecology (OBG) tracker and recorded their clinical experiences; procedures, number, and degree of involvement. Results were compared with data from the passport log. Outcomes included data comparison from both tracking methods and end of clerkship student surveys. Internal review board exemption was obtained. Paired t-tests were used for data analysis.

Results

Thirty-six students participated in the study over 6 months. The OBG tracker recorded 269 entries, the passport recorded 187. The OBG tracker recorded higher numbers of procedures compared to the passport (procedure type, 56 OBG tracker, 8 passport, $p<0.001$; degree of involvement, 30 OBG tracker, 0 passport, $p<0.001$). OBG tracker also tabulated student involvement in cases; 40.2% vaginal deliveries, 41.2% delivered placentas, 62.0% coached patients, 50.9% inserted catheters, 35.8% sutured, 33.3% pelvic exam, 23.3% breast exams. Student surveys rated OBG tracker more useful than the passport (OBG tracker 1.29, passport 4.06, $p<0.001$).

Conclusions

The use of a mobile device tracker for clinical experiences allowed for more meaningful real-time data of learners than the traditional passport logs. Tracking detailed experiences and degree of involvement is important to entrustment decisions in medical education

8. Marcella Rodriguez

Effect of delayed cord clamping on blood sugars levels on 34-36 week fetuses who received late preterm antenatal steroids

Authors

Marcella Rodriguez, DO *Inova Fairfax Hospital*

Dr. Luis Gomez, MD *Inova Fairfax Hospital*

Objective/ Introduction

To determine the effect of delayed cord clamping on neonate metabolic profile after the administration of maternal steroids in the late preterm period

Design/Methods

Retrospective chart review of all pregnant patients who received steroids at 34-36 wks and delayed cord clamping at INOVA Fairfax hospital compared to a group of patients who also received steroids at 34-36wks and did not have delayed cord clamping

Inclusion criteria:

- Infants 34-36wks gestation
- Infants 34-36wks gestation who received betamethasone
- Infants 34-36 wks gestation who received delayed cord clamping (60 seconds)
- Single gestation
- Normal growth
- No fetal anomalies
- Vaginal or cesarean delivery

Exclusion criteria:

- Major fetal congenital anomalies
- Hydrops of neonate
- IUGR
- Diabetes in pregnancy
- Prior maternal/sibling history of hemolytic disease/hyperbilirubinemia requiring exchange transfusion
- Multiple gestation
- Operative vaginal deliveries
- Chronic maternal steroids use

Results

8. Marcella Rodriguez

Effect of delayed cord clamping on blood sugars levels on 34-36 week fetuses who received late preterm antenatal steroids

Marcella Rodriguez, DO *Inova Fairfax Hospital*

Dr. Luis Gomez, MD *Inova Fairfax Hospital*

Objective/ Introduction

To determine the effect of delayed cord clamping on neonate metabolic profile after the administration of maternal steroids in the late preterm period

Background and Significance

Blood glucose concentrations as low as 30 mg/dL are common in healthy neonates by 1 to 2 hours after birth; these low concentrations, seen in all mammalian newborns, usually are transient, asymptomatic, and considered to be part of normal adaptation to postnatal life. Most neonates compensate for "physiologic" hypoglycemia by producing alternative fuels including ketone bodies, which are released from fat. (1) Neonatal hypoglycemia occurs most commonly in infants who are small for gestational age, infants born to mothers who have diabetes, and late-preterm infants (1).

Per ACOG recommendations, the administration of betamethasone may be considered in pregnant women between 34 0/7 weeks and 36 6/7 weeks of gestation who are at risk of preterm birth within 7 days, and who have not received a previous course of antenatal corticosteroids. (4) Late preterm steroids administration is associated with a 2-fold higher risk of neonatal hypoglycemia (3), independent of maternal hyperglycemia.

Delayed umbilical cord clamping appears to be beneficial for term and preterm infants (1). In preterm infants, delayed umbilical cord clamping is associated with significant neonatal benefits, including improved transitional circulation, better establishment of red blood cell volume and decreased need for blood transfusion. It also lowers the incidence of brain hemorrhage and an intestinal disease called necrotizing enterocolitis (2). There is limited data on delayed cord clamping and the effects on neonatal blood sugar levels.

Design/Methods

Retrospective chart review of all pregnant patients who received steroids at 34-36 wks and delayed cord clamping at INOVA Fairfax hospital compared to a group of patients who also received steroids at 34-36wks and did not have delayed cord clamping

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- Multiple gestation
- Operative vaginal deliveries
- Chronic maternal steroids use

Hypothesis: Delayed cord clamping will prevent steroid-induced neonatal hypoglycemia in late preterm neonates.

Status: IRB approved. Data collection.

Specific Aims: To prove the effect of delayed cord clamping on late preterm neonates who received antenatal steroids.

References

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9. Karl Seif

Transvaginal ultrasound evaluation of the cervical stroma and length at the time of the fetal anatomy survey in women undergoing history-indicated cerclage: does it matter?

Objective/ Introduction

History-indicated cerclage between 12-14w is recommended in women with diagnosis of cervical insufficiency. After cerclage placement, it is not routine to recommend ultrasound (US) evaluation of the cervix. We sought to investigate if sonographic evaluation of the cervix aids in the management and prognosis of these patients.

Design/Methods

Retrospective records review of women who underwent history-indicated cerclage at a single tertiary care institution between 2012 and 2017 and had subsequent transvaginal (TV) US at the time of the fetal anatomy survey between 18-22w. Information of cervical length (CL), posterior cervical stroma, and gestational age (GA) at delivery was abstracted. A P value of <0.05 was considered significant.

Results

We obtained complete information in 105 participants. Median GA at cerclage placement was 13w. Median GA at the fetal survey was 20w. Median CL at the time of the fetal survey was 35mm. Median cervical stromal was 22mm. Median GA at delivery was 37w. Women who underwent spontaneous preterm delivery (SPTD) <37w had a significant shorter median CL (28mm) and cervical stroma (12mm) compared to those who delivered at term (35mm and 19mm, respectively; P=0.02). For those who delivered <34w, the median CL and cervical stroma at the time of the fetal survey were 25mm and 9mm, respectively; P<0.01).

Conclusions

Sonographic assessment of the cervix at the time of the fetal anatomy survey in women with cervical insufficiency undergoing history-indicated cerclage may predict the risk of undergoing SPTD.

10. Jennifer Vaz

Impact of Adjuvant Treatment and Prognostic Factors in Stage I Uterine Leiomyosarcoma Patients Treated in Commission on Cancer®-Accredited Facilities

Authors

Jennifer Vaz MD, Chunqiao Tian PhD, Michael T. Richardson MD, John K. Chan, David Mysona MD, Uma Rao MD, Matthew Powell MD, Craig D. Shriver MD, Chad A. Hamilton MD, Yovanni Casablanca MD, G. Larry Maxwell MD, Kathleen M. Darcy PhD

BACKGROUND

The role of adjuvant chemotherapy (ACT) in stage I uterine leiomyosarcoma (LMS) remains inconclusive following the early termination of the international phase III NRG/GOG-277 trial due to inadequate accrual with only 17% accrual achieved over 52 months.

OBJECTIVES

To compare survival in patients with stage I uterine LMS treated with vs. with no ACT and to provide observation evidence regarding treatment selection in 1,500+ Commission on Cancer®-Accredited Facilities.

Methods

Eligible patients from the National Cancer Database were diagnosed with stage I uterine LMS between 2004-2014. Hazard ratio (HR) and 95% confidence interval (CI) were estimated from univariate, multivariate and weighted Cox modeling. Inverse probability of treatment weighting (IPTW) using a propensity score approach was used to balance clinical characteristics. Interaction tests evaluated heterogeneity of treatment effects in subgroups**.**

Results

There were 1,059 eligible patients who underwent hysterectomy with stage I LMS including 514 treated with ACT and 545 in the no ACT group. The risk of death did not differ significantly for patients treated with ACT vs. with no ACT using unadjusted (HR=1.22, 95% CI=0.98-1.53), multivariate (HR=1.20, 95% CI=0.88-1.62) and weighted analyses after balancing for the prognostic variables (HR=1.10, 95% CI=0.87-1.39).

Subset analysis showed that survival following ACT vs. no ACT was similar in patients categorized by age, tumor size, and lymphovascular space invasion (P>0.05 for each interaction test). In contrast, treatment with ACT vs. no ACT was associated with an increased risk of death in patients with low grade (HR=4.22, 95% CI=1.32-13.43) but not with grade 3 (HR=1.06, 95% CI=0.75-1.51) or ungraded (HR=0.97, 95% CI=0.70-1.35).

Conclusions

ACT did not improve survival over no ACT in patients with stage I uterine LMS and should not be considered for patients with low grade LMS confined to the uterine.

11. Sara Hamade

The impact of Ursodiol treatment on fetal PR interval in patients with cholestasis of pregnancy"

Background and aims

Intrahepatic cholestasis of pregnancy is a condition that occurs in the second and third trimesters of pregnancy and characterized by increased serum concentrations of bile acids (>10 Micromol/L). It can be mild or severe (when serum bile acid levels > 40 Micromol/L). Intrahepatic cholestasis of pregnancy is associated with multiple fetal comorbidities and potentially fetal demise. Although the exact mechanism of stillbirths is not known, previous reports have shown alterations in the fetal cardiac conduction system, particularly increase in the fetal PR interval. Ursodeoxycholic acid has been used as treatment for ICP and it has been suggested that it prevents the slowing in fetal ventricular conduction system. The goals of our study are: 1) to evaluate the mechanical PR intervals in fetuses of women suffering from cholestasis of pregnancy 2) to monitor changes after onset of Ursodeoxycholic acid treatment, and 3) to compare them to the mechanical PR intervals in fetuses of women without cholestasis of pregnancy.

Methods

Institutional review Board approval and written consents will be obtained from all participants prior to the start of the study. We will include patients from regular private clinics, High risk pregnancy clinic and Inova cares clinic to achieve diversity in our sample. Our Study group will include patients diagnosed with cholestasis of pregnancy in the third trimester. Diagnosis will be made based on clinical symptoms (persistent pruritis in the third trimester) and elevated bile acid levels >10 Micromol/L or elevated transaminases (AST> 35, ALT > 55 in our lab). Patients with other liver pathologies or gestational comorbidities will be excluded. We will also exclude patients with age <18 years and multiple gestation pregnancies. Our control group will include patients with uncomplicated pregnancies with total bile acid <10 Micromol/L. We will measure the mechanical PR interval in fetuses of patients diagnosed with cholestasis of pregnancy and weekly after starting treatment with Ursodeoxycholic acid until delivery at 37 weeks of gestation. SPSS will be used in our data analysis. Women with ICP will be delivered at 37 weeks of gestation or at time of diagnosis if the diagnosis was made after 37 weeks gestation.

12. **Alison Hawkins**

Is early amniotomy in nulliparous woman undergoing labor induction associated with increased risk of chorioamnionitis? A retrospective chart review

Allison L. Heiden MD, Anne M. Tilghman CNM, and Colleen Kepner MD

Introduction

The last three decades witnessed yearly increases in the number of women undergoing induction of labor (IOL).5 While IOL plays a critical role in minimizing the rate of cesarean section, it also has been associated with increased maternal and fetal morbidity.3 Evidence suggests that prolonged exposure of the intrauterine environment to vaginal and environmental bacteria – as seen in patients who undergo early amniotomy – may be associated with increased risk of intrauterine infection and poor fetal outcomes. However, several investigations failed to demonstrate an association between prolonged rupture of membranes (ROM) and chorioamnionitis. A study by Cooney and Bastek demonstrated that early amniotomy, defined as ROM of less than 4 centimeters (cm) dilation, was not associated with an increased risk of chorioamnionitis. The association between early ROM and chorioamnionitis remains controversial. Our aim in this review is to clarify the relationship.

Objective

Evaluate the association between the timing of ROM and (i) the incidence of chorioamnionitis, (ii) the length of time to vaginal delivery, and (iii) the cesarean section rate in nulliparous women, undergoing induction of labor with a single, term fetus.

Hypotheses

1. Duration of membrane rupture is directly proportional to incidence of chorioamnionitis
2. Length of time to vaginal delivery is shorter in patients who undergo early ROM
3. There is no difference in the cesarean section rate between patients who undergo early versus late ROM

Materials and Methods

This study is a retrospective chart review of all nulliparous woman who underwent IOL at Inova Fairfax Medical Center over a five-year period from January 2014 – December 2018. The inclusion and exclusion criteria are listed below.

Inclusion Criteria:

-Nulliparous

-Singleton Gestation

-Term Intrauterine Pregnancy, defined as gestational age greater than or equal to 37 weeks

-IOL

-Less than 4cm dilation upon initial cervical exam

Exclusion Criteria:

-Patients without a documented cervical exam at the time of ROM and cervical dilation greater than or equal to 4cm at next cervical exam

-Chorioamnionitis prior to admission

-Elective cesarean section

-History of cerclage in this pregnancy

-Active HSV infection

-HIV positive status

-Patients receiving magnesium

References

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13. Aisat Okanlawon

Can the number of fetal fraction on cell free DNA and abnormality of PaPP-A serve as a screening tool for development of pre-eclampsia?

Dr. Aisat Okanlawon, Dr. Lewis Gomez

Abstract

Increasing plasma levels of circulating cell free DNA and PAPP-A levels have been observed to show strong relation to severe preeclampsia. The aim of this project is to evaluate and compare the relationship with the amount of cell fraction in cell-free DNA and abnormal PAPP-A in the development of preeclampsia and normotensive pregnancies. Establishing the relation with these markers with the development of preeclampsia can then serve as a screening tool.

Design/Methods

This retrospective case control study, we compared pregnant patients with elevated circulating c-f DNA and abnormal PAPP-A and those who developed preeclampsia.

Results

Pending

Conclusions

to be determined

14. Graham Nelsen

Evaluation of fetal biometry ratios (BPD/FL and FL/foot) as a combined screening method for lethal skeletal dysplasias

Investigators: Luis Gomez, MD and Graham Nelsen, MD

Introduction

Skeletal dysplasia has a prevalence of 2.4 per 10,000 births, making it a rare event. However, it accounts for ~1% of perinatal deaths. There are more than 400 disorders with various overlapping phenotypes, making accurate sonographic diagnosis in utero very challenging. Although exact diagnosis of dysplasias may be problematic, predicting lethality is.. Several sonographic measurements, including Femur Length alone, Femur Length to Abdominal Circumference, and cardio thoracic ratio have been used to predict lethality in cases of skeletal dysplasia but their applicability tend to be at later gestational ages. The femur length / foot ratio is an underutilized marker which has proven validity in the screening of skeletal dysplasias; this ratio tends to remain constant through the pregnancy to a ratio of 1 (lower limit 0.87) and is not affected by gestational age. Also, the use of biparietal diameter / femur length ratio has been reported as a promising sonographic marker for the detection of thanatophoric dysplasia, a lethal type of skeletal dysplasia.

Hypothesis

We hypothesize that the combined use of (i) femur length / foot ratio and (ii) biparietal diameter / femur length ratio is a useful screening tool for the prediction of lethal skeletal dysplasias in the early second trimester before other sonographic markers of are evident.

Objectives

1. To characterize the screening validity of femur length / foot ratio alone in the screening of lethal skeletal dysplasia.

2. To characterize the screening validity of biparietal diameter / femur length ratio alone in the screening of lethal skeletal dysplasia.

3. To characterize the screening validity of both femur length / foot ratio and biparietal diameter / femur length ratio in the screening of lethal skeletal dysplasia.

Design/Methods

This is a Case Series study with retrospective chart review of both normal pregnancies and those affected with lethal skeletal dysplasias. We will collect data recorded from ultrasounds performed during regular prenatal care from 2006 to 2019. Inclusion criteria includes all pregnancies with short femur on ultrasound or previously confirmed skeletal dysplasia. Exclusion criteria includes other known anatomic abnormalities. Exclusion criteria for establishing normal parameters includes late prenatal care with uncertain gestational age dating or other anatomic abnormalities.

We will establish normal parameters at 10^{th}, 50^{th}, and 90^{th} percentiles for fetuses without skeletal dysplasia and a normal growth curve for: biparietal diameter, head circumference, humerus length, femur length, abdominal circumference, and foot length.

We will establish normal parameters at 10^{th}, 50^{th}, and 90^{th} percentiles for fetuses without skeletal dysplasia and normal growth curve for: biparietal diameter / femur length and femur length / foot length ratios.

We will compare parameters of non- affected fetuses with similar biometry and ratio parameters of fetuses affected with lethal and non-lethal skeletal dysplasia.

We will establish sensitivity, specificity, positive and negative predictive values for the screening of the proposed ratios (BPD/FL and FL/foot) alone and in combination.

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15. Charbel Awad

TWELVE YEARS' EXPERIENCE WITH FASCIA LATA AUTOGRAFT TO REPLACE COMPLICATED ANTERIOR VAGINAL MESH

Authors

Jonia Alshiek, MD, MSc, Charbel Awad, MD, Eva Welch, MD, Mehrsa Jalalizadeh, MD, S. Abbas Shobeiri, MD, MBA

Objective/ Introduction

To report twelve-year experience with replacing the transvaginal mesh (TVM) with fascia lata autograft.

Design/Methods

This was a chart review of TVM removal and replacement with a fascia lata autograft placement by a single surgeon between 2005 and 2017. The pelvic organ prolapse quantification
(POP-Q) system before and one year following the procedure, patient-reported recurrence of
symptoms, changes in the POP-Q examination and complication rates are analyzed.

Results

24 patients were included. Mean age was 57.2 (95% CI 53.2-61.2). Mean number of days to Foley catheter removal was 3.2 days (95% CI 1.6-4.9) and mean number of days to drain
removal was 10.9 days (95% CI 9.9-12.0). Following the surgery, no leg seroma, infection or
numbness was reported. UTI occurred in 4 (16.7%) of the participants post-operatively. At three
months follow-up, mild urinary symptoms were reported in 5 participants (20.8%). At one-year
follow-up, one participant was symptomatic of pelvic organ prolapse.
Paired t-test analysis revealed statistically significant retraction of Aa and Ba vaginal points
($p<.001$). C, GH and PB points were also statistically significantly retracted

Conclusions

Fascia lata autograft for anterior compartment reconstruction due to TVM complications is associated with high safety and efficacy.

16. Leah Allbright

Headache in peripartum women: not all headache is preeclampsia

Women in the peri and postpartum period can develop headache with a variety of etiologies that require a multidisciplinary approach if unresponsive to treatment (Stella 2007). Neuroimaging needs to be undertaken even occasionally in the absence of focal neurological signs to rule out life-threatening causes of headache. We present the case of a 23 year old woman who presented postpartum with severe frontal headache without other neurological symptoms. Treatment was initiated for tension-type, then subsequently post-dural puncture headache (PDPH), and finally preeclampsia. When CT venogram was obtained ten days later, the diagnosis of cerebral venous thrombosis (CVT) was made. She was started on anticoagulation and achieved complete recovery.

17. Ashley Bonamer

Postpartum Counseling: Empowering Women and Clinicians to Take Charge of the Fourth Trimester.

Authors

Ashley Bonamer DO, Emily Marko MD, Carolyn Davis MD, Sira Perez-Visona BA, Meghan Semiao BS

Objective/Introduction

To determine if a structured comprehensive postpartum care curriculum using simulation could significantly improve medical student competency in counseling real patients.

Background: Medical students receive limited exposure to postpartum care counseling through real-life observation during this critical time period which has the potential to affect both the short-term and long-term health and well-being of both mother and baby.

Design/Method

A pre-post single cohort study was designed to examine postpartum counseling performance among medical students during their OBGYN clerkship rotation following an intervention of simulated patient encounters with preceptor feedback. The study outcomes include pre-post differences in: (1) knowledge; (2) student confidence levels; and (3) performance assessment scores. In addition, students track their real time clinical experiences in postpartum care counseling and this data will be compared to the year prior to initiation of the curriculum.

Results

Initial data collection indicated significantly higher post-knowledge tests (86.67% vs. 42.44%, $p<0.0001$). Student post-confidence levels in counseling demonstrated significant improvement in the following areas (1=high, 5=low): patient's risk for postpartum complications (1.50 vs. 3.14, $p<0.001$); pain management strategies to limit narcotic use (1.38 vs. 3.50, $p<0.001$); breastfeeding continuation at home (1.50 vs. 3.00, $p<0.001$); screen for postpartum depression (1.38 vs. 3.86, $p<0.001$); contraception counseling (1.57 vs. 3.25, $p<0.001$). Performance assessments and clinical experience data collection are ongoing.

Conclusions

This is an ongoing study and early data suggests that if medical students are taught comprehensive postpartum care counseling through a simulation-based curriculum, then they will achieve significantly higher post-instruction knowledge, confidence and competence scores, and these skills will be transferred to increased real-life counseling skills.

18. Cassandra Presti

Factors to Explain Racial Disparity in Survival for Women with Uterine Cancer: Further Investigations by Histologic Subtype

Authors

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Objective

Our prior study demonstrated that histology explained 53% of racial disparity in survival between non-Hispanic Black (NHB) and non-Hispanic White (NHW) women with uterine cancer. The objective of this study was to determine if the explained and unexplained contributors of racial disparity in survival between NHB and NHW women in this cancer varied by histology.

Design/Method

Propensity score analysis using inverse probability treatment weighting was applied to NHB and NHW women diagnosed with a first primary stage I-IV uterine endometrioid (UEC), serous (USC), clear cell (UCC) or mixed epithelial (UMC) carcinoma between 2004 and 2014 in the National Cancer Database to sequentially balance the population by demographics, neighborhood income, insurance, comorbidity score, grade, stage and treatment within these four histologic subtypes. Other histologic types were excluded. Hazard ratio (HR) and 95% confidence intervals were calculated from weighted Cox modeling and excess relative risk (ERR) of death was expressed as a percent of the individual contribution of each factor.

Results

Racial disparity in survival was evident in all four histologic subtypes (Fig 1A-1D). After sequentially balancing for the seven sets of explanatory variables, the HR dropped from 1.8 to 1.2 for UEC, 1.3 to 1.1 for USC, 1.4 to 1.2 for UCC and 1.9 to 1.2 for UMC. The individual contribution to the ERR of death in NHB versus NHW varied by histology (Fig. 1E-1H). The largest contributors to racial disparity in survival were grade (29%), income (23%), and unexplained factors (21%) for UEC compared with unexplained factors (43%), stage (16%) treatment (16%) and income (14%) for USC. Unexplained factors, stage and treatment accounted for 61%, 14% and 13% of the ERR of death in UCC whereas grade, unexplained factors, stage and income, accounted for 31%, 27%, 16% and 15% of racial disparity in survival in UMC, respectively.

Conclusions

Neighborhood income and insurance represent potentially actionable factors to mitigate survival disparities between NHB and NHW women through policy changes to expand equitable pay and equal access to care. Histology and unexplained factors combine to provide the largest explanation for the observed racial disparity prompting additional research including investigations of racial admixture, molecular alterations and social determinants of health.

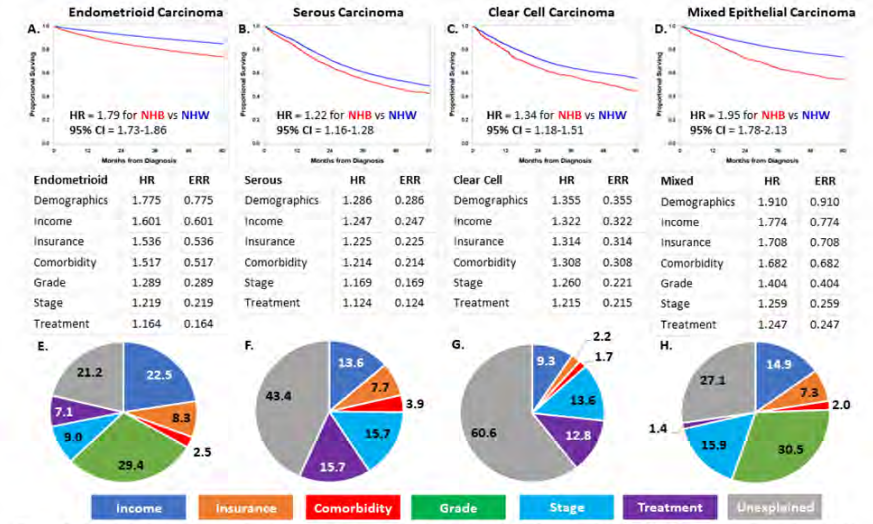

Figure 1. Racial disparity in survival between non-Hispanic Black (**NHB**) and non-Hispanic White (**NHW**) women with endometrioid carcinoma (**A**), serous carcinoma (**B**), clear cell carcinoma (**C**) or mixed epithelial carcinoma (**D**) with hazard ratio (**HR**) and 95% confidence interval (CI) from the unadjusted population inserted into the corresponding plot and with the **HR** and the excess relative risk (**EER** = 1 minus the HR) from sequential weighted Cox models inserted into the underlying the table. The pie chart displays the individual contribution to the **ERR** (%) for NHB versus NHW women with endometrioid carcinoma (**E**), serous carcinoma (**F**), clear cell carcinoma (**G**) or mixed epithelial carcinoma (**H**). Grade was included in the analysis of women with endometrioid or mixed epithelial, but not serous or clear cell carcinoma.

Learning Objectives

1. Estimate the causes of racial disparity in survival between non-Hispanic Black and non-Hispanic White women with uterine corpus cancer.

2. Determine if the explained and/or the unexplained contributors of survival disparities between non-Hispanic Black and White women with uterine cancer vary by histologic subtype.

3. Define the remaining gaps in knowledge and future directions for investigating survival disparities in uterine endometrioid, serous, clear cell and mixed epithelial carcinoma further.

Disclaimer: The views expressed herein are those of the authors and do not reflect the official policy of the Uniformed Services University, the Department of Army/ Navy/Air Force, Department of Defense, or U.S. Government.

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19. <u>Masooma Raza</u>

Evaluation and management of anal incontinence in a perineal clinic utilizing pelvic floor ultrasound

Obstetric anal sphincter injuries (OASIS) occur as a result of perineal trauma involving the external anal sphincter and/or rectal mucosa during vaginal deliveries. Women with OASIS have an increased risk of developing anal incontinence later in life. This video will discuss a specialized perineal clinic's approach to the evaluation and management of a specific case of anal incontinence using 3D Endoanal ultrasound (EAUS) in a patient with a history of OASIS in a prior pregnancy. EAUS is a valuable tool to diagnose anal sphincter defects and its use requires a thorough understanding of perineal anatomy. Anal sphincteroplasty is a treatment modality reserved for patients with fecal/anal incontinence who fail conservative management and have evidence of anatomic sphincter injury on EAUS.

20. Conway Xu

Treatment and Survival in Elderly Women with Gynecologic Cancer Not Inferior with Medicare versus Private Insurance: A National Cancer Database Investigation.

Authors

Conway Xu MD, Chunqiao Tian PhD, Guisong Wang MS, Lana Bijelic MD, Nicholas W. Bateman PhD, Thomas P. Conrads PhD, Chad A. Hamilton MD, Yovanni Casablanca MD, G. Larry Maxwell MD, Kathleen M. Darcy PhD

Objective/Introduction

Medicare eligibility in the United States begins at 65 years of age but some individuals retain private insurance and decline the Medicare provision. This study determined if Medicare vs private insurance affects treatment and/or survival in women diagnosed at ≥65 years old with uterine, ovarian or cervical cancer.

Learning objectives:

1. Determine if baseline characteristics vary in elderly uterine, ovarian or cervical cancer patients diagnosed ≥65 years old with Medicare compared with private insurance.

2. Determine if treatment and/or survival vary in uterine, ovarian or cervical cancer patients ≥65 years old with Medicare compared with private insurance before and after balancing for baseline characteristics.

3. Define the future directions for disparity analyses in young cervical cancer patients diagnosed <65 years old with no insurance, Medicaid, Medicare or private insurance.

Design/Method

Propensity score analysis using inverse probability treatment weighting (IPTW) was applied to women with Medicare (alone or with supplemental insurance) versus (*vs*) private insurance only in the National Cancer Database to balance the population by demographics, comorbidity, histology and stage. Patients were diagnosed at ≥65 years old with a first primary stage I-IV uterine, ovarian or cervical cancer between 2004 and 2014. Treatment proportions and survival differences were compared.

Results

There were 171,599 eligible women including 148,239 with Medicare vs 23,360 with private insurance. Older age at diagnosis, comorbidity score 1+, aggressive histology and advanced stage were more common in uterine, ovarian and cervical cancer patients with Medicare vs private insurance. Surgical treatment was less common in uterine (91.3% vs 93.8%), ovarian (69.5% vs 75.9%) and cervical (32.8% vs 38.3%) cancer patients with Medicare vs private insurance, respectively. Radiation did not vary, but chemotherapy was less common in uterine (20.4% vs 22.2%), ovarian (68.8% vs 72.3%) and cervical (50.4% vs 54.1%) cancer patients with Medicare vs private insurance, respectively. Survival was worse for uterine (hazard ratio [HR]=1.26, 95% confidence interval [CI]=1.22-1.30), ovarian (HR=1.19, 95% CI=1.15-1.23) and cervical (HR=1.25, 95% CI=1.16-1.34) cancer patients with Medicare vs private insurance, respectively. IPTW balanced for differences in age at diagnosis, comorbidity score, histology and stage between Medicare and private insurance. Balancing also corrected for the disparity in the proportion treated with surgery or chemotherapy, and in the survival of women with Medicare compared with private insurance (**Fig. 1**).

Conclusions

Treatment and survival for women ≥65 years old with uterine, ovarian or cervical cancer were not inferior with Medicare compared with private insurance after balancing

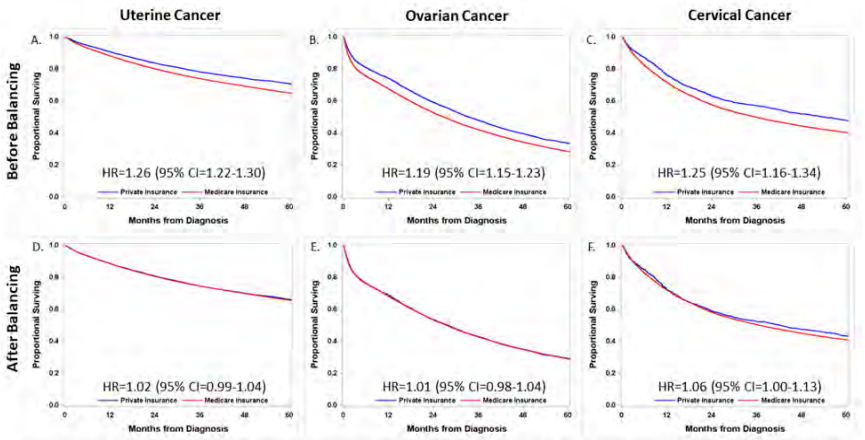

Figure 1. Survival distributions and risk of death expressed with hazard ratio (HR) and 95% confidence interval (CI) in uterine cancer (A, D), ovarian cancer (B, E) or cervical cancer (C, F) patients diagnosed ≥ 65 years old with Medicare compared with private insurance.